

**THE HISTORY, HABITAT AND PRESENT STATUS OF HOLY GRASS
(*Hierochloe odorata*) (L.) P. Beauv. AT BLYTHSWOOD, RENFREW DISTRICT, VC 76**

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INTRODUCTION

Holy grass (*Hierochloe odorata*) is a plant of wet grassy places and tidal river margins. This grass is widespread in Asia, Europe and in North America where it is known as sweet grass or vanilla grass (Hubbard, 1968). In Britain, holy grass is a nationally rare plant and is classified as a lower-risk, near-threatened Red Data Book species. In Scotland, which has almost all of the British records, holy grass has been recorded as present in 17 of the 10 km² (Wigginton, 1999). Most of these sites are on or near the coast, river estuaries and tidal river margins. Some inland locations have also been discovered. Holy grass was first identified as a British plant in an Angus glen by George Don in July 1812 (Hooker, 1821). Don was a Scottish botanist and his discovery was published under the name of Northern Hierochloë (*Hierochloë borealis* Roem. & Schultz). For many years searches were made by enthusiastic botanists at the Angus site but the holy grass eluded them (Bennett, 1899). It was not until 1854 that a second station was discovered at Thurso. The plant was now becoming recognised as a Scottish species and, over the years, new localities have been added to the list. The Renfrew site was discovered in the early 1930's. The generic name *Hierochloe* is derived from the Greek *hieros*, "sacred", and *chloë*, "grass"; hence holy grass. The specific name *odorata* refers to an aroma produced from the plants which some have described as being like vanilla or coumarin. Holy grass is the first perennial grass to flower, sometimes in March, but more usually in April and May and is most easily identified in springtime. It spreads rapidly by means of slender creeping rhizomes which form compact patches. The genus was called *Hierochloe* because in some parts of Prussia the plant was dedicated to the Virgin Mary and was strewn around churches at festivals (Hooker, 1821), the sweet scent from the grass no doubt helping to disguise dampness arising from the earthen floors. Linnaeus states that the grass is a soporific and sold in Swedish towns "to be suspended over the beds and induce sleep." (Hooker, 1821). These practices have not, as far as is known, been recorded in Scotland. Many of the Scottish locations are, however, in the vicinity of ancient ecclesiastical sites.

HISTORY OF THE AREA

The rivers and land surrounding the holy grass sites have undergone dramatic changes over many centuries. In 1796 the White Cart Water was widened, deepened and straightened. A canal cut was made to the east of the former channel so avoiding shallows at the Inchinnan Bridge. This canal allowed larger ships access to docking facilities upriver at Paisley. The present Rolling Lift Barscudie bridge crosses over the former canal section of the White Cart. The Clyde/Cart confluence area was later deepened to permit the launching of large ships from what was formerly John Brown shipyards. These various navigation schemes radically changed the topography of the Cart Waters.

The earliest known owner of the ground on which the holy grass grows was Andrew Hay who obtained a Charter for these lands from the Regent Moray in 1568. Andrew Hay was Rector of Renfrew in the Roman Catholic Communion in 1558 but he joined the Reformers and was appointed as Protestant Minister in Renfrew in 1560. He was also Rector of Glasgow University. The estate, then known as Renfield, stayed in the Hay family until it was sold to Colin Campbell of Blythswood in 1654 (Souden, 1927). The estate was renamed Blythswood and stayed with that family until recently. Nothing now remains of Blythswood House and its once extensive gardens.

Less than a mile upstream on the Black Cart Water is the site of the ancient church of Inchinnan. The first structure on the site dated from between 593-612 A.D. and around 1100 A.D. a stone and lime edifice was erected at the side of the river (McClelland, 1905). A church existed on this site until the 1960's when the building was dismantled and re-located at Inchinnan as part of the development of Glasgow Airport.

**EARLY RECORDS OF HOLY GRASS AT
RENFREW**

Holy grass was found at Blythswood by J. R. Lee on the 28th April 1931. Lee, who was at that time the President of the Glasgow and Andersonian Natural History Society, exhibited the specimen at a meeting of the Society on the 11th May 1931 (Glasgow Naturalist, 1931). A notice later appeared in the Report of the Botanical Society and Exchange Club of 1931 which

states “ *Savastana odorata* (*Hierochloe borealis*). A small patch, well established, was found on the bank of the River Cart, Blythswood, Renfrew, J.R. Lee. The old church of Inchinnan is only half a mile away, and Paisley Abbey is five or six miles distant. Mr Lee thinks that the plant can hardly have been there long, for the locality was formerly well-known to local botanists, and suggests that it is a casual introduced with ships’ ballast. —” This appears to be the earliest published account of the holy grass at Renfrew. It is not listed in *The Clydesdale Flora* or in subsequent editions, the fifth and last in 1891 (Hennedy, 1865). Lee’s herbarium sheet, now in the Glasgow University Herbarium, records the location as “banks of the Cart at Blythswood” and the plant was named *Hierochloe borealis* Roem. & Schultz. A further specimen collected by him at the same location is dated 19th May 1932. Dr Donald Patton, a fellow member of the Society, collected two specimens from the same area in 1933. These are named *Hierochloe odorata* Wahl. and were collected from the “right bank of Cart below Inchinnan bridge.” This is almost certainly the same site discovered by Lee two years earlier.

The late J.H. Penson of Glasgow took a great interest in the holy grass at Blythswood, and between the years 1959 and 1976, he visited the area almost every year. His manuscript notebooks, now in the possession of A. McG. Stirling, give an interesting and informative account of the flowering success and survival of the holy grass during this period. Penson appears to have had knowledge of only two of the three sites known to today’s observers. His detailed notes are too extensive to be quoted verbatim. The following extracts may be of interest.

23rd April 1960. “Only 12 flowerheads, less developed and weaker than on the 18th April last year. Not seen in any spot but the one.”

16th June 1960. “7 flowerheads, mostly disintegrating, possibly some or all infertile. Site partly covered with rubbish apparently brought up by the tide or brought down by the river.”

15th April 1961. “64 flowerheads, all at one spot, perhaps slightly extended.”

It appears from the above notes that Penson knew of one site only which was probably the site discovered by John Lee in 1931. In 1969 Penson makes mention of a second station which he identifies as being “c. 700yds nearer the [Inchinnan] bridge, more extensive than first, c. 170 flowerheads, mostly on the edge of the riverbank.” Penson also reported that construction work for the Normandy Hotel in 1970 did not seem to affect the new site. His comments about the grass flowers being infertile are interesting. Florets recently collected from the site which were sent to the Rare Plants Project at Kew did not contain viable seeds (K. Watson pers. comm.).

PRESENT STATUS OF HOLY GRASS AT RENFREW

There are three sites presently known (Fig. 2). A thorough search of the banks upriver on both the White and Black Cart Waters was undertaken in late April 1999. No further patches of holy grass were located.

Photographs of holy grass and one of its Renfrew locations are shown on the front cover of this edition. Legends are inside the back cover (Fig. 1).

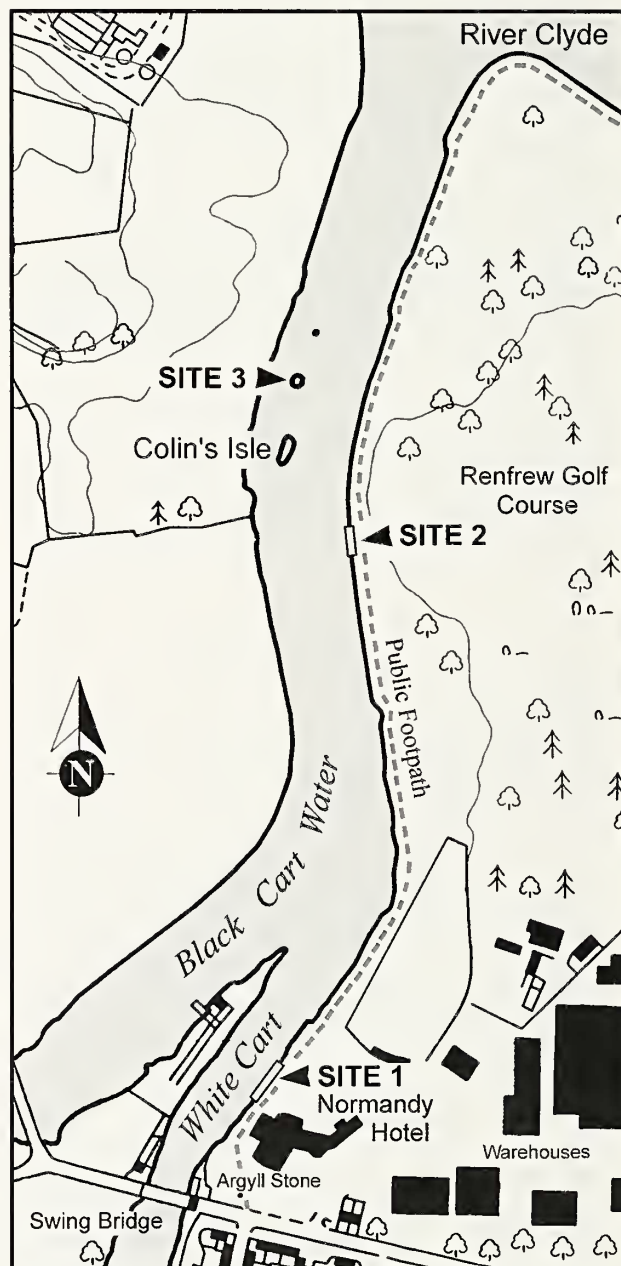


Fig. 1 Map showing holy grass sites on the tidal White & Black Cart River confluence.

Site 1 NS495680 Located at the rear of the Normandy Hotel, this large patch measures 10 metres long by 1 metre wide. This site is to be found on the east bank of the White Cart beginning at the pathside opposite a brick-built enclosure used by the hotel for burning rubbish. The plants extend down-river to a small inlet. In March the lime-green grass blades are conspicuous from the public footpath. In Late April 1999 and 2000 this population produced few flowerheads and seems to thrive vegetatively. This is probably the second station recorded by Penson in 1969.

Site Ecology - The holy grass forms a band at the base of an eroded, sloping bank above the tidal mud. At the edge of the public footpath above are rough grassland plants such as bramble (*Rubus spp.*), common nettle (*Urtica dioica*), creeping thistle (*Cirsium arvense*), broad-leaved dock (*Rumex obtusifolius*), creeping buttercup (*Ranunculus repens*), ground elder (*Aegopodium podagraria*), coltsfoot (*Tussilago farfara*), false oat grass (*Arrhenatherum elatius*), couch grass (*Elytrigia repens*) etc. On the adjacent tidal mud below are sea aster (*Aster tripolium*), English scurvygrass (*Cochlearia anglica*) and scattered spear-leaved orache (*Atriplex prostrata*). The station is shaded by nearby trees and is well protected from winds.

Site 2 NS495685 Located further down the river, again on the east bank, below the confluence of the White and Blaek Cart Waters. This site is to be found directly under the flight path of Glasgow Airport. The plants are situated on the riverbank at the pathside across from a large willow at the edge of Renfrew Golf Course. The colony measures 6 metres long by 2 metres wide. In 1999 and 2000 this population produced many flowerheads. The earliest date for flowerheads was 17th March 2000 when four were observed. In April 2000 the surrounding dried grass and debris in the area was set alight by vandals. Half of the holy grass colony was burned but later recovered. This station is believed to be the site discovered by Lee in 1931 and visited later by Penson in the 1960's.

Site Ecology - Grasses dominate the area which include false oat grass (*Arrhenatherum elatius*), and Couch-grass (*Elytrigia repens*). Above are rough grassland species at the edge of the public footpath such as red fescue (*Festuca rubra*), and scattered common nettle (*Urtica dioica*), creeping thistle (*Cirsium arvense*), and broad-leaved dock (*Rumex obtusifolius*). On the tidal mud below are sea aster (*Aster tripolium*), English scurvygrass (*Cochlearia anglica*), scattered spear-leaved orache (*Atriplex prostrata*) and some greater sea-spurrey (*Spergularia media*). The area is exposed to strong winds which regularly funnel down the rivers and it is fully exposed to sunshine. This station would seem to be much drier than Site 1 due to the exposed situation.

Site 3 NS495688 On the west side of the river, below the Cart Waters confluence, are the remains of a once larger island called Colin's Isle, and now forming a string of three small islands. The larger island, marked as Colin's Isle on O.S. maps, is densely covered by common reed *Phragmites australis*. Holy grass may have originally been on this island but succumbed to competition from the phragmites which spread from the nearby riverbank where it is abundant.. Two small un-named islets lie to the north of Colin's Isle. The first, with a solitary hawthorn tree at the centre, supports a healthy colony of holy grass (Futter, 1992). This patch is about one metre square and flowers were in evidence when visited in May 1999. This islet, accessible only at low tides, is fully exposed to wind and sunshine. It is not known at present when this station was first discovered or by whom. The second and northernmost islet is frequently underwater at high tides and supports only sea aster (*Aster tripolium*).

Site Ecology - The species diversity on this stony, conical island is restricted by its small size. Just above high-water mark is a population of sea aster (*Aster tripolium*). Above this is a scattering of couch-grass (*Elytrigia repens*) merging into a large dense clump of holy grass at the centre of which grows a solitary hawthorn (*Crataegus monogyna*).

Site stability The banking at Site 1 is unprotected and in danger of erosion when the White Cart is in spate or when high tides back upriver. Deposits of rubbish are frequent. The embankment at Site 2 has been artificially re-enforced with stonework at some time in the past and the population does not seem to be in immediate danger from erosion. However, in winter, debris and vegetation washed up by high tides and strong winds regularly pollute the riverbank sometimes blocking the path. In springtime, when the holy grass is beginning to flower, the path is cleared by the District Council and the rubbish is merely tipped over the banking. Some of this rubbish may be deposited onto the site. The small islet, Site 3, does not seem to be affected by the deposition of debris. A stone embankment round the islet seems to protect the site from serious erosion. A further danger to the holy grass populations on the riverbank is the presence of the invasive Japanese knotweed (*Fallopia japonica*), a small colony of which exists between Sites 1 & 2

DISCUSSION

The fact that holy grass is at Renfrew raises the question of how such a rare plant should come to be on the lower reaches of the Cart Waters and why the grass was not discovered until 1931. There would seem to be a number of possibilities - none of which can be substantiated by any facts. The following points may be of interest.

a) The lack of records prior to 1931 may be explained by holy grass being most conspicuous early in the year. It is often overlooked if searched for in summer. During the nineteenth century, access to the site would have been difficult for the Blythswood area was strictly private being part of the policies of Blythswood House. Never the less, Prof Hennedy was known to have botanised around Inchinnan, but the holy grass site was unknown to him and the subsequent compilers of the *Clydesdale Flora* between 1865 - 1891.

b) Lee's suggestion of the plants being introduced from ships' ballast is an interesting hypothesis as a number of 'alien' and unusual plants are to be found on the Cart Water banks, e.g. *Cardaria draba*. However, local botanists do not seem to favour this idea for the origin of the holy grass.

c) The grass may have been grown in a herb garden at the adjacent Blythswood House or the former Renfield House. Garden rubbish could have been dumped into the Cart to be washed down-river.

d) In the immediate vicinity of the holy grass sites there are three long established churches. The present Renfrew Parish church is situated less than a mile east of the Cart Waters. On the White Cart, a few miles upriver, stands Paisley Abbey and on the Black Cart is the site of the former Inchinnan church. The close proximity of the holy grass sites to these early churches invites the assumption that there could be a connection. However, recent studies of plant remains and pollen found in drains at Paisley Abbey did not include holy grass pollen.

Despite the lack of historical and archaeological evidence, the holy grass on the Cart Waters could be a long overlooked relict population surviving from much earlier times when it was grown locally and used, along with other aromatic plants, to freshen the damp, earthen-floored churches in the surrounding area.

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REFERENCES

- Bennet, A. (1899) *On Hierochloa borealis R. & S. as a Scottish Species* Annals of Scottish Natural History.
- Botanical Society and Exchange Club of the British Isles, Report of (1931) vol.1X, part V, p676.
- Futter, K. (1992) *Holy grass - status in Renfrew District* Unpublished report for S.N.H.
- Glasgow Naturalist (1931) Reports of Meetings, vol X, p36.
- Hennedy, R. (1865) *The Clydesdale Flora*. D. Robertson, Glasgow.
- Hooker, W. J. (1821) *Flora Scotica*, London.
- Hubbard, C.E. (1968) *Grasses, A Guide to their Structure etc.* 2nd edition, Penguin Books, Harmondsworth.
- Perring, F.H. and Farrell, L. (1997) *British Red Data Books 1 : Vascular Plants*, Society for the Promotion of Nature Conservation, Lincoln.
- Souden, J. (1927) *Memorials in Renfrew Parish Church*, Aird & Coghill, Glasgow.
- McClelland, Rev R. (1905) *The Church and Parish of Inchinnan*, Gardner, Paisley.